
Chapter 3

CONCEPTUAL FRAMEWORK AND PREMISES

Several central principles underscore the wild salmon and steelhead conservation and restoration components in the LCSCI. Foremost among them is that broad wild stock rebuilding goals can only be met by conserving and restoring biological diversity (life history and genetic) and related habitat diversity within and between stocks. This requires recognition that wild stocks have adapted to the range of natural changes occurring within their dynamic environments over the long term. Because of their evolutionary history, wild stocks would also be expected to have the greatest chance of successfully adapting to future changes in their respective environments.

Managing for conservation of biological diversity necessitates an understanding of how that diversity is organized within a species. Considerable information is available on steelhead genetic, life history, and ecological diversity in Washington (e.g., Leider et al. 1995; Busby et al. 1996; Phelps et al. 1997). In addition to guidance provided by diversity-based conservation principles, management activities should also strive to reduce the potential for undesired influences on fitness of wild stocks, reflected by their long term reproductive success. Examples of circumstances that may adversely affect fitness include: inbreeding due to small population sizes and interbreeding between hatchery and wild fish. Strategies are included in the LCSCI to reduce risks to long term fitness of wild steelhead. The use of hatchery fish in harvest augmentation and wild stock rebuilding or supplementation efforts will be sensitive to the range of genetic and ecological risks.

Protection and restoration of habitat diversity and health is also essential to long term viability of wild salmonid populations and ESUs. It is essential to recognize that streams are complex and dynamic, success can only be achieved if stream and ecosystem health and integrity are addressed, including broadly reestablishing ecological functions and communities, and that we can not just treat the symptoms of degradation but must treat its primary causes (NRC 1996; Spence et al. 1996; Stouder et al. 1997; Williams et al. 1997).

The LCSCI is based on a variety of underlying conceptual premises. These premises are consistent with the direction and context of the Joint Cabinet's draft State Salmon Strategy. The premises are also intended to be consistent with recommendations of the Northwest Power Planning Council's Columbia River Independent Scientific Group (ISG 1996), the Oregon Plan (State of Oregon 1997), and Steelhead Supplement to the Oregon Plan (SSOP). Any refinements of the premises in the LCSCI will be included in future drafts. These premises apply to all wild salmonids, not just steelhead.

- Protection and restoration of wild steelhead habitat, including key structural and functional components of watershed ecosystems, is the fundamental prerequisite to meeting overall conservation objectives.

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- Successful protection and restoration efforts for steelhead habitat will produce ecosystem benefits that will improve the aquatic system for the benefit of other salmonids.
 - Effective partnerships and commitments among federal, state, local government entities, tribes, regional groups, industry, landowners, and the public will be essential to the development and implementation of a successful wild steelhead protection and rebuilding plan.
 - Maintenance of flexibility and control at the state and local level will allow maximum effort and resources to be directed toward effective steelhead conservation objectives and thus alleviate the burden of federal control under the ESA.
 - An adaptive approach will be used to shape management strategies and actions, and to develop, evaluate, and integrate needed information into decision making over the long term.
 - Spawning escapement of individual wild steelhead stocks must be adequate to ensure future productivity and related societal benefits.
 - Locally adapted wild stocks, their component populations, and the genetic and life history diversity they represent are critical to the long term productivity of the ESUs.
 - Productivity of wild steelhead stocks depends on long term management that recognizes interactions occur within and between other fish/animal species in their ecosystems in highly dynamic and complex ways.
 - Some factors can not be directly influenced by management practices (ocean conditions, volcanic events), but risks and impacts of their occurrence must be incorporated in conservation planning.
 - Steelhead fisheries must recognize genetic and ecological risks, and be managed to be consistent with achievement of wild escapement goals, while complying with legal requirements for conserving the resource and sharing the harvest opportunity.
 - Artificial production programs entail genetic and ecological risks, and also have the potential to make important contributions to society.
 - Hatchery strategies must be compatible with wild steelhead protection and restoration goals and objectives.